

Packet Radio Field Deployment

6 November 2014

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Fxshwlr DUHVZUDFHV



CARES Mission

The mission of Cupertino ARES is to maintain and train Amateur Radio volunteers capable of providing professional emergency communications, increasing the City's emergency response effectiveness, and speeding the recovery effort.

CARES Response Assignments

what we do

1. Preliminary Safety Assessment	CARES collects and reports information about the state of the city immediately after a city-wide emergency or disaster occurred.
2. Field / ICP Response	CARES members respond and operate at a field assignment during a declared emergency.
3. Infrastructure Safety Assessment	CARES observes and reports on selected Cupertino critical facilities that are deemed to be important to the City or other Agencies.
4. EOC Support	<ul style="list-style-type: none">• Staff the Comm Van / Radio Room• Provide situation roll-up of field reports



Field / ICP Response

What we do... Specifically

At the ARKs or an ICP, CARES handles all communications to and from the EOC, DOC or other ARKs during a volunteer event, training, or an emergency.

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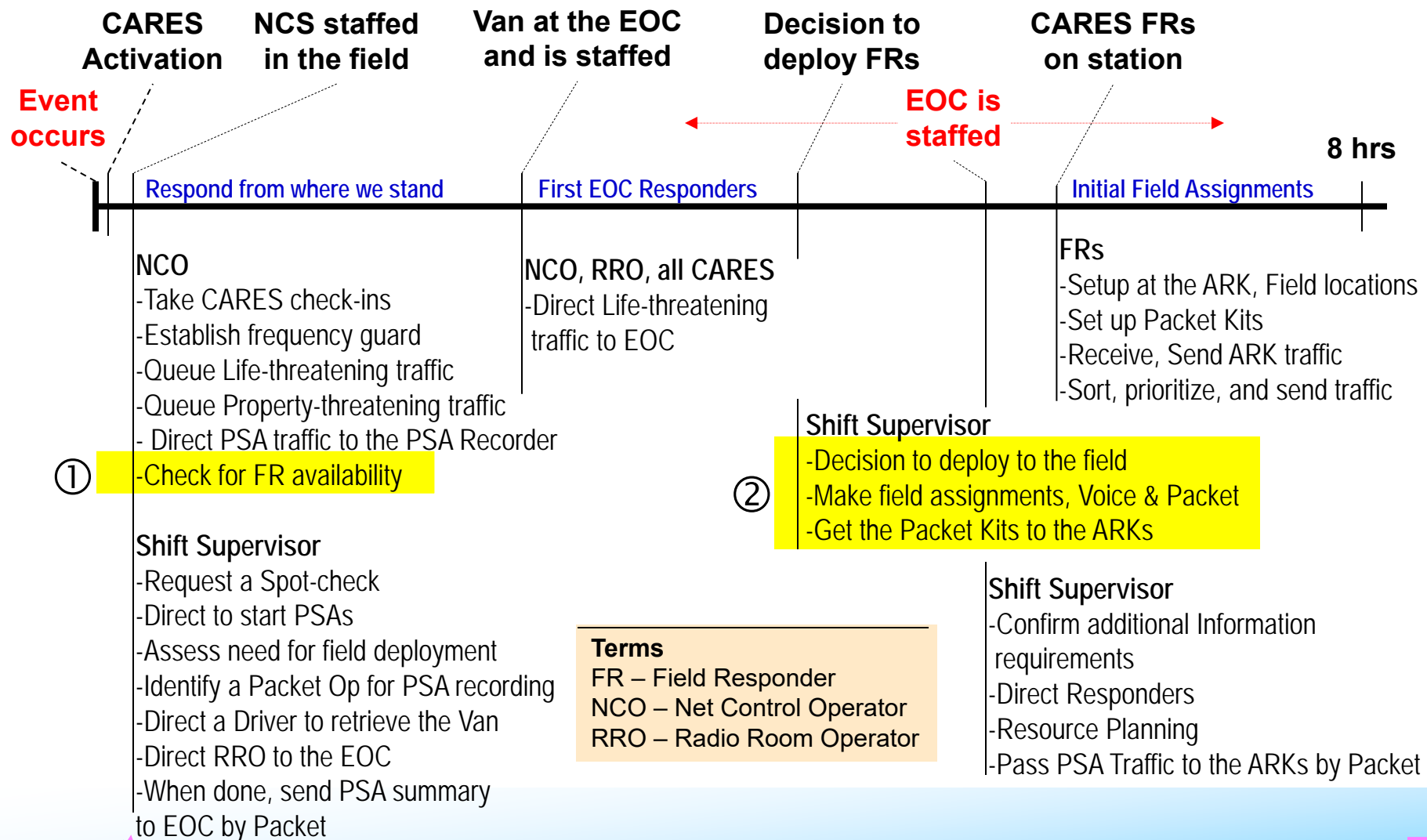
ICP Communications Operations

1. Activation
2. Deployment
3. Check-in (On arrival)
4. Setup
5. Message Operations
 - Addressing messages
 - Message types
6. Demob, Secure from Activation



1. Activation

Initial Response Ops



1. Activation

ICP Communications Operations

definition: **Activation**

- The notification to shift emergency responders from Readiness to action with the intent to support, address, mitigate, or resolve problems caused by an emergency.

Provision for Self-announcing Natural Disasters

The follow direction is authorized per the following reference, **Emergency Operations Plan**, City of Cupertino, Part I Basic Emergency Plan, Section XI Volunteers and Disaster Service Workers, page 43.

- During self-announcing natural disasters, CARES members may self-dispatch and commence windshield surveys to provide situation status and Preliminary Safety Assessments provided it is safe to do so.
- CARES members may also respond to Mutual Aid requests and may be part of the Santa Clara County Operational Area ARES/RACES team.
- For all other events (natural and man-made), requests for DSWs will be announced via telephone, courier, radio and television.
- Volunteers will not respond to any act of terrorism unless specifically required by the EOC or their City contact person.



2. Deployment

ICP Communications Operations

definition: ***Deployment***

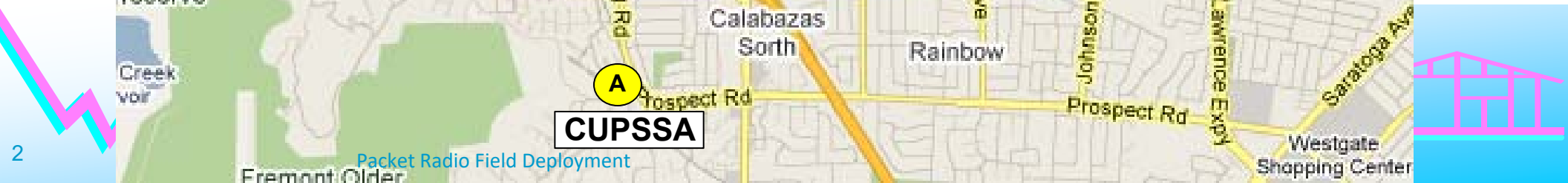
- The process of identifying and placing emergency responders in the EOC or the field (ARK or ICP) to support an emergency response.

Process

1. Make sure you take care of your family first; do not respond if there are problems at home.
2. Check into the CARES emergency net.
3. Perform the PSA as directed.
4. State your availability for a field assignment when asked.
5. When assigned, maintain radio contact with the Resource Net while in transit.
6. On arrival, check out of the Resource Net, and check into the Message net.



ICP Communications Operations



3. Check-in (On Arrival)

ICP Communications Operations

definition: **Check-in**

- The process of reporting at the assigned location to begin performing the communications assignment in accordance with the CARES procedures, under the guidance of the Incident Commander.

Process

1. Be sure to follow check in and check out procedures; Find the Check-in Desk
2. Sign in on the ICP's ICS-211B log even though you are checked in to the RESOURCE or MESSAGE Net.
3. Report to the Incident Commander after you checked in.
4. If you are one of the first 2-3 people to show up, you may be asked to help start up the ICP/ARK until the next person shows up.
5. Be sure to let the Check-in and IC know if you are assigned to Net Control (CARES only) or Resource Net (ARK and field operations)



3. Check-in (On Arrival)

ICP Communications Operations

The Importance of Check-in

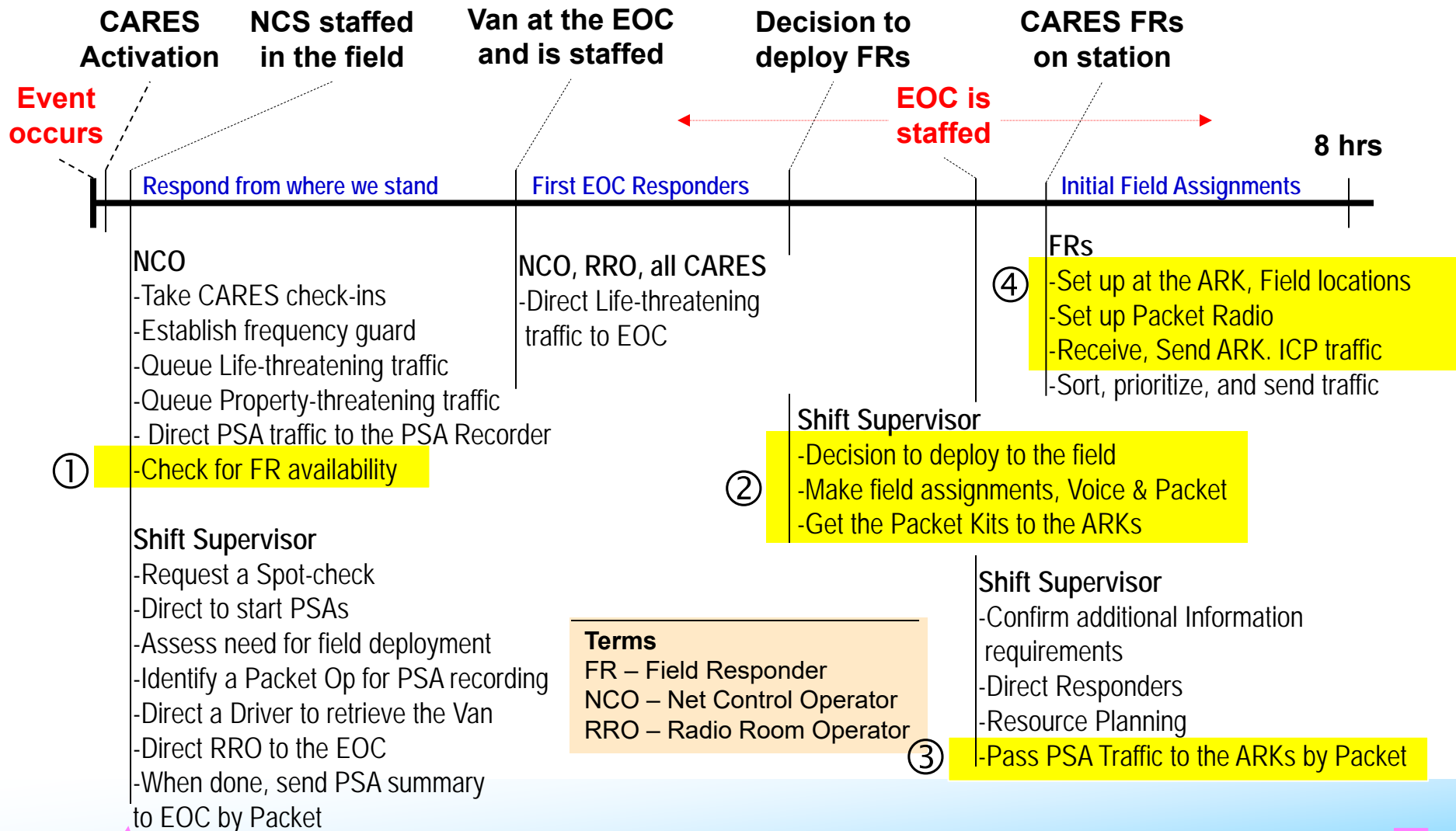
At the ICP, the check-in process helps to...

1. Ensure personnel accountability.
2. Track resources.
3. Prepare personnel for assignments and reassignments.
4. Locate personnel in case of an emergency.
5. Establish personnel time records.
6. Plan for releasing personnel.



4. Setup

Initial Response Operations



4. Setup

ICP Communications Operations

definition: **Setup**

- For an ARK or other ICP, this is the process for establishing the CARES communications function at the assignment.

Process

Establishing the communications function means...

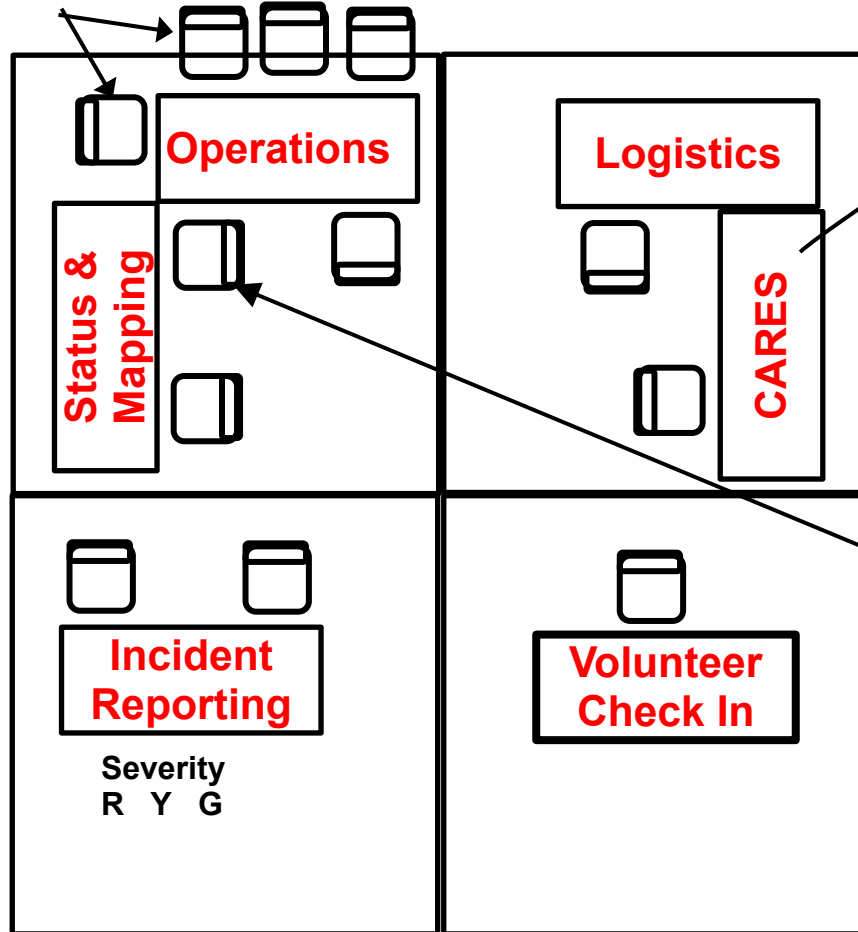
1. Retrieving tents, tables, chairs, and other material needed to create the communications position.
2. Setting up and power all radios, antennas, computers and generators.
3. Performing an initial communications test.
4. Notifying the IC of the communications function readiness.



4. Setup

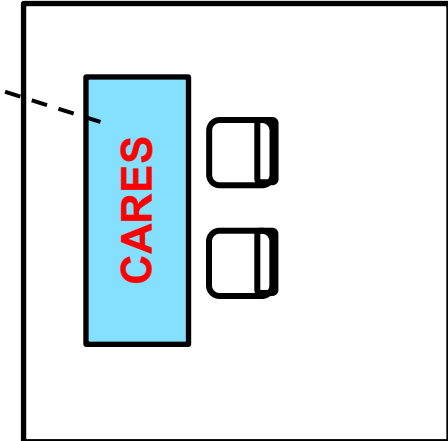
Preferred ARK Layout

Field Team Brief/
Debrief Chairs



ARK

Option to locate away
from main activity, or
closer to the ARK.



Incident Commander

Not Shown:
Break Area & Staging
MRC Tent

12' x 12' Pop-ups

Bulletin Board

Locate away from interfering with
main ARK operations area. May
need a pop-up in wet weather.

People

Traffic from here

Vol's

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4. Setup

The Communications Function components

Equipment Requirements

Pop-up	<ul style="list-style-type: none">• From ICP Logistics, check one out a Pop-up and place it in the assigned location.• Using a Laptop in the sun does not work ☹... you will need shade.
Table & Chairs	<ul style="list-style-type: none">• From ICP Logistics, check out one table and 2 chairs.
Generator	<ul style="list-style-type: none">• From ICP Logistics, check one out a generator and place away from your location.• Use the Extension cord that comes with the Packet Kit
Packet and PC Kit	<ul style="list-style-type: none">• Radio, TNC, Power Supply, Mag Mount• Laptop, power module, Printer (not yet)
Antenna placement	<ul style="list-style-type: none">• 2m/440 Mag Mount with 18 ft coax cable.• Mount on top of the ARK



4. Setup

Generator

Specs – Honda 2000i

- Weight: 47 lb (dry), ~53 lb (w/ 1 gal of gas)
- AC Output: 2000 watts
- Starting System: Recoil

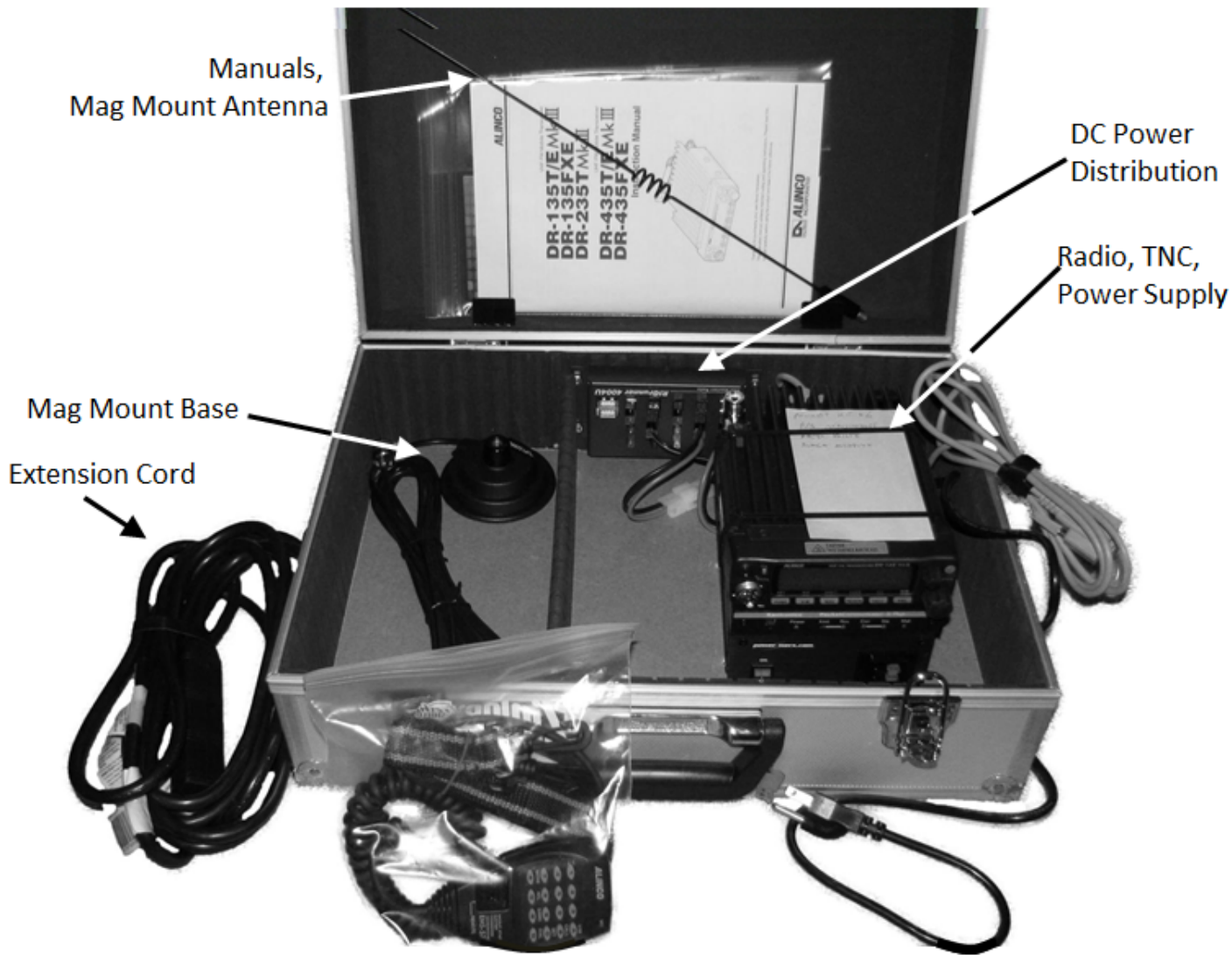
NOTES

- **LIFTING:** this is heavy. DO NOT LIFT if it is beyond your capacity for lifting an object.
- **PLACEMENT:** put the generator far enough away to avoid the fumes, but close enough to connect to your gear (downwind preferably).
- **PROCEDURES:** See the Instructions attached to the generator for Starting and Stopping.
- **STARTING:** This generator uses a Pull-to-Start cord. It may have not been run for a few weeks. If you get tired trying to start it, then rest, and try again. Or get someone else to try.



4. Setup

Cupertino's Packet Kit



Process

1. Open the Packet Kit.
2. Remove, and assemble the Mag Mount, place on top of the ARK.
3. Remove the Extension Cord, plug it into the generator.
4. Connect the serial cable to the Laptop. Plug in, power up.
5. Power up the Laptop, click on the Outpost SCC desktop icon.



5. Message Operations

Packet Radio Users Guide

Table of Contents

1. Ham Radio Packet Overview
2. Setting up a Packet Station
3. Packet Message addressing basics
4. Creating Packet Messages
 - 4.1 Freeform messages
 - 4.2 Sending a text file
 - 4.3 Sending a PacFORM message
 - 4.4 Sending spreadsheets (.csv file)
 - 4.5 Receiving spreadsheets (.csv file)

05.2014 Packet Radio Users Guide

Cupertino ARES/RACES



5. Message Operations

ICP Communications Operations

definition: ***Operations***

1. The task of creating, formatting, and exchanging messages with the EOC.
2. Part of the CARES Response Operations.

Process

1. Works with the ICP Staff on messages to be sent.
2. Determines the best transmission mode to use – Voice or Packet.
3. Helps clarify the messages to ensure they are clear and unambiguous.
4. **For Voice,**
 - Participates in the Message net, follows message net protocols to pass the message.
 - Listens for and receives incoming messages for this location.
5. **For Packet,**
 - Formats the message for delivery.
 - Ensures the message is successfully delivered.
6. Logs all message traffic on the ICS-309.



5. Message Operations, Packet

Cupertino Tactical Calls

Arks

CUPDZA DeAnza College Ark
CUPGGA Garden Gate Ark
CUPHYA Hyde Middle School Ark
CUPLSA Larsen School Ark

CUPMVA Monta Vista Ark
CUPSSA Seven Springs Ark
CUPSCA Stevens Canyon Ark
CUPMBA Montebello Ridge Ark

Public Safety

CUPCSO County Sheriffs station,
west side
XSCF71 Cupertino Fire
XSCF72 Seven Springs Fire
XSCF77 Monta Vista Fire

Services

CUPMED Cupertino Medical Center
CUPSAN Cupertino Sanitary District
SJWEOC San Jose Water in Cupertino

City Facilities

CUPBBF Blackberry Farm (OES)
CUPCRE Creekside Park
CUPCCY Cupertino Corp Yard
CUPEOC Cupertino EOC
CUPJOL Jollyman Park
CUPMEM Memorial Park
CUPOPS Field Operations
CUPPOR Portal Park
CUPQLN Quinlan Center Shelter
CUPWVS West Valley Service Center

SPARE Addresses

CUP001
CUP002
:
CUP009



5. Message Operations, Packet

ICP Communications Operations

Notes on Addressing Cupertino Stations

In General

- If two stations typically operate on the same BBS, then all you need is the Call Sign or Tactical Call for the TO: address (ex: **CUPSSA**, **CUPHYA**, etc.)
- If two stations operate on different BBSs, then you need to add the BBS to the Call Sign or Tactical Call for the TO: address (ex: **MTVEOC@W2XSC**)

In Our Case

- All ARKs will operate on **W1XSC**, Cupertino Primary.
- Cupertino EOC will operate on **W4XSC**, Cupertino Secondary.
- To address a message to the Cupertino EOC, use this address:
CUPEOC@W4XSC
- To address a message to another ARK, use this address format (example):
CUPSSA@W1XSC or **CUPSSA**.

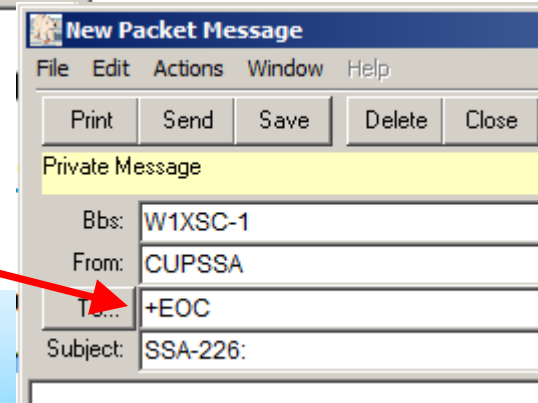
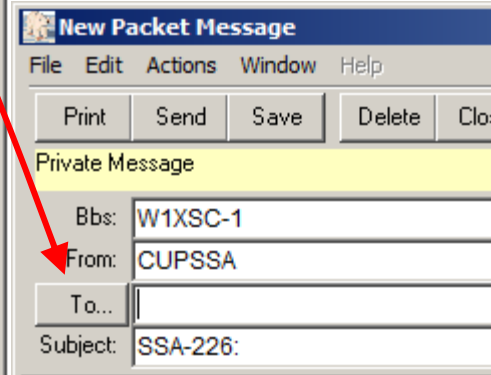
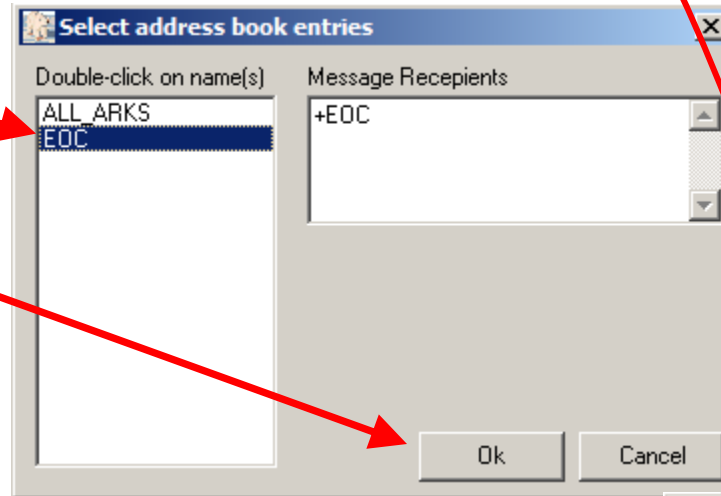


5. Message Operations, Packet

ICP Communications Operations

Notes on Addressing Cupertino Stations

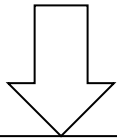
1. There is an Address Book Entry titled **EOC**.
2. In the Message Form, press the **To:** button. The address book selection form opens.
3. Double-click on **EOC**. Press OK.
4. The Address Book entry is loaded into the To: Field.
5. Double-click on this entry to see the expanded address.
EOC is an alias for **CUPEOC@W4XSC**



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Addressing a message

The message we want to send from
the ARK to the City's Ops Chief



From: Seven Springs Ops
To: Cupertino Ops
Subj: Ark Staffing Summary

~~~~~

~~~~~

~~~~~

~~~~~

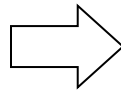
Signed,
Dave Miller Ops Chief

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Addressing a message

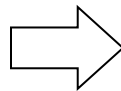
We want to “embed” our message below into a packet message with additional addressing information



From: Seven Springs Ops
To: Cupertino Ops
Subj: Ark Staffing Summary

~~~~~  
~~~~~  
~~~~~  
~~~~~

Signed,
Dave Miller Ops Chief



BBS: W1XSC-1
From: CUPSSA
To: CUPEOC@W4XSC
Subj: SSA134: Ark Staffing Summary

From: Seven Springs Ops
To: Cupertino Ops
Subj: Ark Staffing Summary

~~~~~  
~~~~~  
~~~~~  
~~~~~

Signed,
Dave Miller Ops Chief

Fxshuwr DUHVUDFHV



5. Message Operations, Packet

New Half-Sheet Message Form

1. Incident Name (Optional):		Priority (E, U, R):	Message No:
2. To (Name and Position):			
3. From (Name and Position):			
4. Subject:		5. Date:	6. Time:
7. Message:			
8. Approved by: Name		Signature: _____ Position/Title:	
9. Reply:			
10. Replied by: Name		Signature: _____ Position/Title:	
COES 213.5		Date/Time:	

REV 140605

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5. Message Operations, Packet

Rollup Message Form

Enter Method of transmission

Enter Message Number

Enter this data

Cupertino ARK Status Rollup Message Form

Activation # _____	ARK/ICP: _____ DOC <input type="checkbox"/>
Method Sent: Voice <input type="checkbox"/> Packet <input type="checkbox"/>	Message Number: <u>CARES assigns number</u>

TO: <u>DOC</u>	Position: _____
FROM: <u>Your Name</u>	Position: <u>Your Function</u>
Subject: Status Rollup	Date: _____ Time: _____
Message Priority: Routine (Green) <input type="checkbox"/>	

***** CARES - Do Not Send This Format Information *****

**** Instructions for IC and S&M – Using this format enter the names, number, Org, IncidentCommander, Status&Mapping, Operations, Logistics CellPh, IC_cell #, S&M_cell#, Ops_cell#, Logistics_cell# Current_Mil.Time, #CERT, #CARES, #MRC, #SUV +2_Hours_Mil.Time, #CERT, #CARES, #MRC, #SUV (estimated) Rollup, Mil.Time, #Injuries, #People-Trapped, #Structure, #Fires, #Flooding, #Utility, #Chemical, #Access, #Security, #Missing

***** CARES - Send message below as comma delimited format *****

Org, IC, S&M, OPS, LOG
CellPh, IC #, S&M #, OPS #, LOG #
Time, Time, CERT, CARES, MRC, SUV (Number of each category)
Time+2, 2hrs later, CERT, CARES, MRC, SUV (Estimate # 2 hrs from now)
Rollup, Time, 0, 0, 0, 0, 0, 0, 0, 0, 0
tally from S&M Log - 10 numbers!

Reply:

Signature: Your name Position: function (IC or S&M)

Form: ICS213R-ARK - Rev 130125 Web Location: www.cupertino.org/cert/forms/ics213-ARK.pdf

5. Message Operations, Packet

Rollup Message Form

***** CARES - Do Not Send This Format Information *****

**** Instructions for IC and S&M – Using this format enter the names, number,

Org, IncidentCommander, Status&Mapping, Operations, Logistics

CellPh, IC_cell #, S&M_cell#, Ops_cell#, Logistics_cell#

Current_Mil.Time, #CERT, #CARES, #MRC, #SUV

+2_Hours_Mil.Time, #CERT, #CARES, #MRC, #SUV (estimated)

Rollup, Mil.Time, #Injuries, #People-Trapped, #Structure, #Fires, #Flooding, #Utility, #Chemical,
#Access, #Security, #Missing

***** CARES - Send message below as comma delimited format *****

Org, IC, S & M, OPS, LOG
CellPh, IC #, S & M #, OPS #, LOG #
Time, Time, CERT, CARES, MRC, SUV C NUMBER of Each catago
Time+2, 2hr later, CERT, CARES, MRC, SUV Estimate # 2 hrs from now
Rollup, Time, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
tally from S&M Log - 10 numbers!



6. Demob, Secure the Activation

ICP Communications Operations

definition: **Demob (Demobilization)**

- For SEMS/ICS, the process of standing down from an activation.
- Dismantle and pack up the ARK or ICP equipment.

Process

1. Receive notification from the IC to secure message activities.
2. Notify the Message Net that you are securing message activities, **but**...
3. Do not check out of the MESSAGE NET; Continue to monitor on your HT.
4. Power down and pack up all radios, antennas, computers and generators.
5. Disassemble and return all tents, tables, chairs, and other material that was checked out from **Logistics**.
6. Notify **Logistics** of anything needing repair, replacement, or replenishment.
7. Notify the IC that you are departing.
8. Sign out on the ICP's ICS-211B log.
9. Check out of the MESSAGE NET, Check into the RESOURCE NET.

Packet Radio Field Deployment Exercise

November 15, 2014

Objectives

1. Exercise emergency voice and packet communications message handling procedures.
2. Exercise packet radio kit deployment, setup, and operation at the ARKs.
3. Create, send, and receive packet messages.
4. Exercise resource net concepts and procedures.



Packet Radio Field Deployment Exercise

November 15, 2014

Concept

This will be a packet communications functional exercise based on an earthquake that previously occurred and impacted the city.

1. The drill will occur over a 3.0 hour period on Saturday November 15, 2014.
2. Two Field Responders will respond for each ARK, one on voice, the other on Packet. They will switch roles over the course of the drill to maximize packet traffic.
3. The CCC DOC will simulate the EOC response as necessary. ???
4. Field originated message traffic will be based on timed scripted messages and simulated interactions with other responders.
5. Simulated OpArea traffic will be developed and sent to County.



Packet Radio Field Deployment Exercise

November 15, 2014

Artificialities

1. CARES PSA will not be performed as part of the drill. We are assuming it was just completed.
2. Only 2 ARKs will be opened. All 6 packet teams will be sent to and set up at these 2 ARKs. Each will be assigned a specific ARK name for the drill.
3. CERT at the ARKs will originate message traffic to be passed.
4. County EOC will not be activated.
5. Wired and cell phones are working. However, all message traffic will be passed by radio.

Packet Radio Field Deployment Exercise

November 15, 2014

Things to Test

1. Mag Mount requires close proximity to the ARK

- Does the setup support this?
- If not, what do we need? Coax Extension? Different mounting arrangement?

...

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Packet Radio Field Deployment Exercise

November 15, 2014

Saturday

- 0730 Comm Van at EOC, resource Net is operational.
- 0745 Activate the Emergency Net. Take Check-ins. Check for Field Responder availability.
- 0815 Field Responders in route to their assignments
- 0900 All field responders at their posts.
- 1030 Secure field operations, Demob. Travel back to the EOC for debrief.
- 1115 Hold debrief.
- 1200 End of the Event.



Thank you

Any Questions?

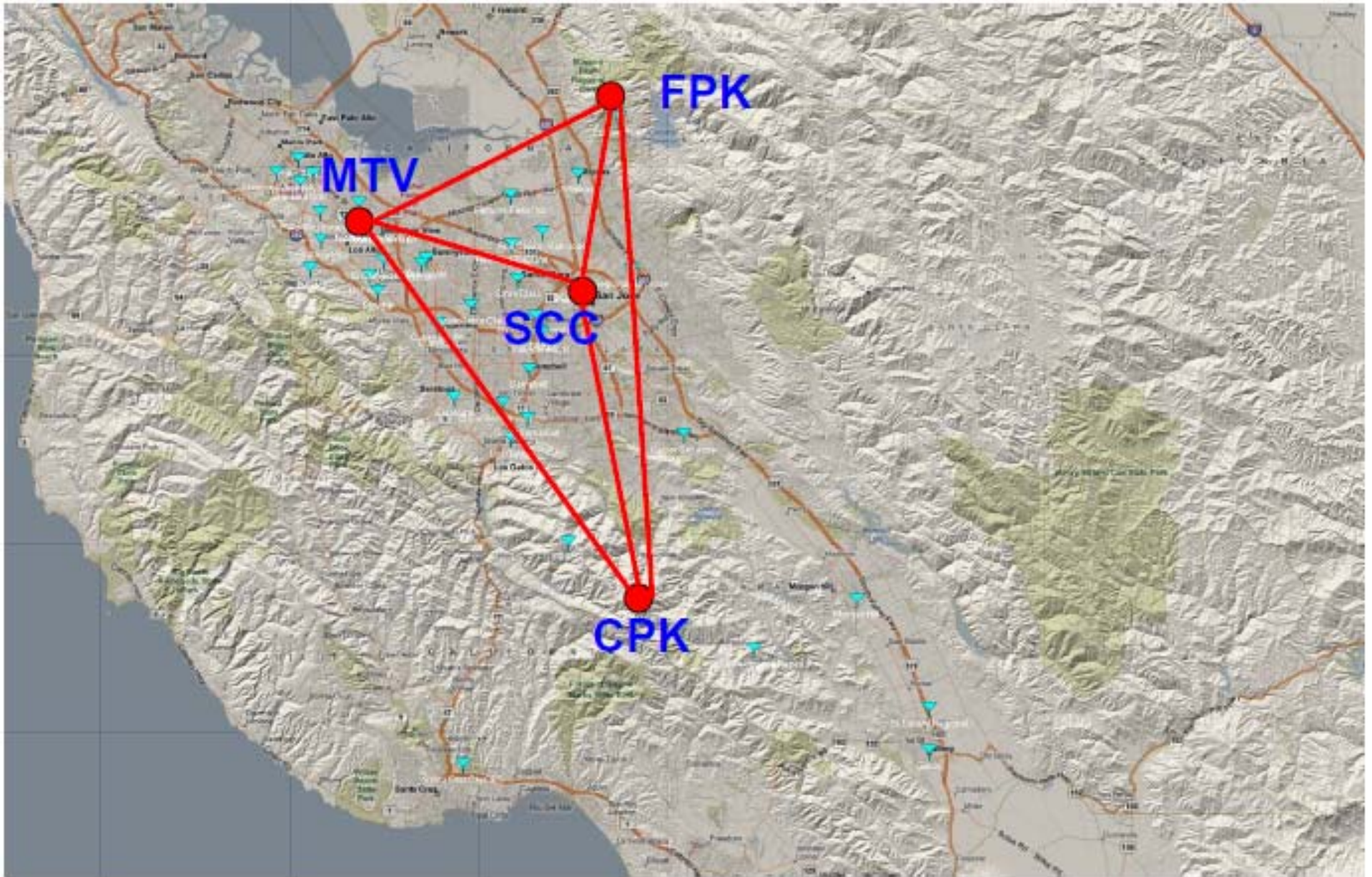


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Santa Clara County BBS Network

The BBS's... No Internet required to reach anywhere in the county!



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Anatomy of a message

1. Packet Address header

The packet header gets the message to the correct Packet Station

BBS: the “Store and Forward” mail drop where this message will be sent. **Automatically filled in**

From: Tactical Call of your packet station. **Automatically filled in.**

To: Defaults to the destination station set up in Outpost. This can be changed.

Subject: The Message ID is **automatically added** to the subject line.

SSA134: ARK Staffing Summary - Packet Message

File Edit Actions Window Help

Print Send Save Delete Close Urgent

Private Message

Bbs: W1XSC-1

From: CUPSSA

To: CUPEOC

Subject: SSA134: ARK Staffing Summary

From: IC, Seven Springs Ark

To: Ops Chief, Cupertino EOC

The following staff are in place at the 9

Incident Commander

Ops Section Chief

Logistics Section Chief

Planning & Intel Section Chief

First Aid Station is set up

Communications function is set up

... and no others|

Signed,

Dave Miller, Ops Chief

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Anatomy of a message

2. Recipient Address and Message

Once the message gets to the destination Packet Station, address the message to the right person.

Subject – Fill in the rest of the subject line

Message Body

From: Who is this message from? ICS position or function

To: Exactly to whom do you want this message to go? ICS position or function

The Message: Will in the details of the message.

Signature: Put who the message is from

SSA134: ARK Staffing Summary - Packet Message

File Edit Actions Window Help

Print Send Save Delete Close Urgent

Private Message

Bbs: W1XSC-1

From: CUPSSA

To: CUPEOC

Subject: SSA134: ARK Staffing Summary

From: IC, Seven Springs Ark

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Signed,

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